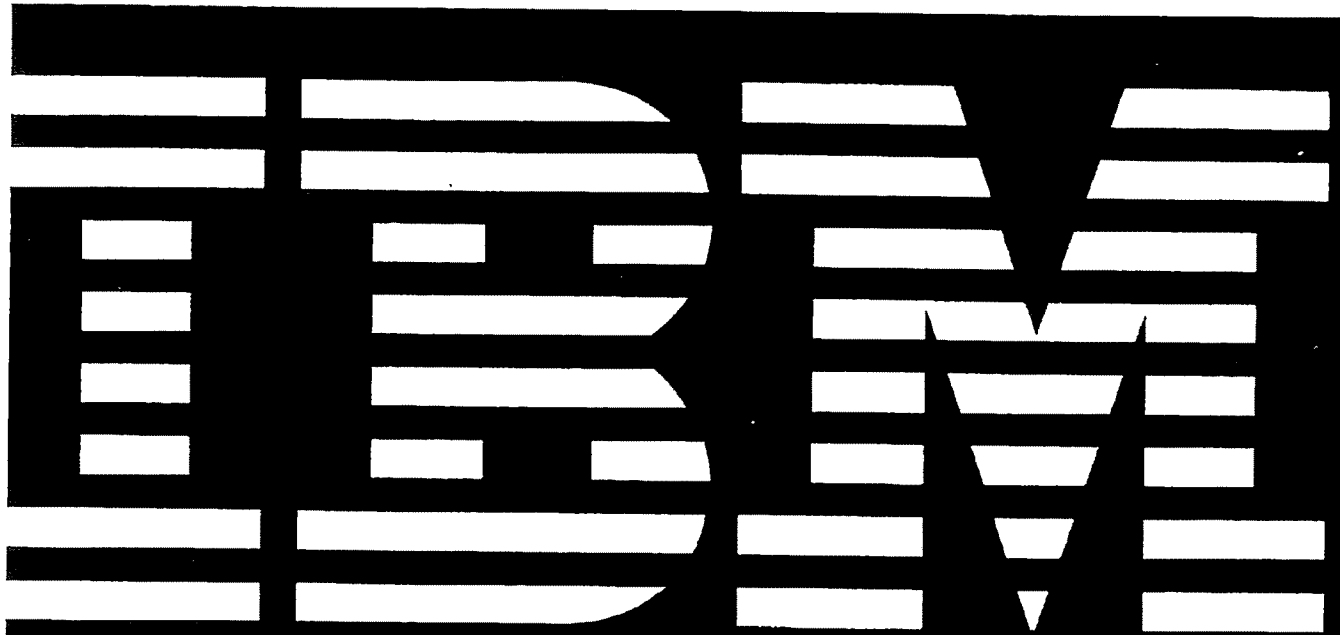


# EXHIBIT 13



# Dictionary of Computing

- ▼ The most comprehensive computing dictionary ever published
- ▼ More than 18,000 entries

# **IBM DICTIONARY OF COMPUTING**

*Compiled and edited by*  
**GEORGE McDANIEL**

**McGRAW-HILL, INC.**

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**International Edition**

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**COB****[111]****coded document**

**COB** Card-on-board logic.

**COBOL (common business-oriented language)** A high-level programming language, based on English, that is used primarily for business applications.

**COBOL character** Any of the 51 characters of the COBOL character set.

**COBOL character set** In COBOL, the character set that consists of the following characters: 0, 1, ... , 9 (digits), A, B, ... , Z (uppercase letters), a, b, ... , z (lowercase letters), (space), + (plus sign), - (minus sign), \* (asterisk), / (slant), = (equals sign), \$ (currency sign), , (comma), ; (semicolon), . (period), " (quotation mark), ( (left parenthesis), ) (right parenthesis), > (greater than symbol), < (less than symbol), : (colon).

**COBOL word** In COBOL, a character-string of not more than 30 characters that forms a user-defined word, a system-name, or a reserved word.

**COD** Cash on delivery.

**Codabar** A type of bar code that provides a limited character set with 12 available characters.

**CODASYL** Conference on Data Systems Languages.

**CODASYL model** In a database management system, a network model whose pattern of organization is based on set types that specify associations among record types. (A)

**code** (1) A set of rules that maps the elements of one set onto the elements of another set. The elements may be characters or character strings. The first set is the coded set and the second is the code element set. An element of the code element set may be related to more than one element of the coded set but the reverse is not true. (T) (2) A set of items, such as abbreviations, representing the members of another set. (A)

(3) In computer security, a set of rules in which code groups are substituted for plaintext elements that are primarily words, phrases, or sentences. (4) Loosely, one or more computer programs, or part of a computer program. (5) Instructions written for a computer. (6) A coded character set. (7) A representation of a condition, such as an error code. (8) To represent data or a computer program in a symbolic form that can be accepted by a data processor. (I) (A) (9) To write a routine. (A) (10) To write instructions for a computer. Synonymous with program. (11) Deprecated term for coded character set, code element, code element set, program. (12) Synonymous with coding scheme. (13) Synonym for encode.

**code area** In computer micrographics, that part of a microform reserved for retrieval keys. (A) See also work area.

**code book encoding** In video compression, a technique that uses a table of values to reconstruct the original digital signal from a compressed signal.

**code breaking** Synonym for cryptanalysis.

**code conversion** A process for changing the bit grouping for a character in one code into the corresponding bit grouping for a character in a second code.

**code converter** A functional unit that changes the representation of data by using one code in place of another or one coded character set in place of another. (T) (A)

**coded** See binary-coded decimal notation.

**coded arithmetic data** (1) Arithmetic data that are stored in a form that is acceptable, without conversion, for arithmetic calculations. (2) In PL/I, data items that represent actual numeric values that are characterized by their base (decimal or binary), scale (fixed-point or floating-point), and precision (the accuracy, as in binary or decimal places, with which a number can be represented).

**coded character set** (1) A coded set whose elements are single characters; for example, all characters of an alphabet. (T) (2) Loosely, a code. (A) (3) A set of graphic characters and their code point assignments. The set may contain fewer characters than the total number of possible characters: some code points may be unassigned.

**coded data overlay** In the IBM ImagePlus system, coded data specifically formatted for use with an image overlay.

**coded data storage** In the ImagePlus system, this refers to the process of reading objects, including coded data objects, from a batch file and storing them on optical storage or another storage medium.

**coded decimal notation** Synonym for binary-coded decimal notation.

**code-dependent system** A mode of data communication that uses a link protocol that depends on the character set or code used by the data source. Synonymous with code-sensitive system. Contrast with code-independent system.

**coded document** A document composed of coded data only.

**instantiation****[346]****INT**

**instantiation** A formula or pattern rule having its variables replaced by constants. (T)

**instant jump** A feature of some videodisc players that permits branching between frames within certain minimum distances, usually one to 200 frames away. The branch occurs during the vertical blanking interval between images.

**in-stream procedure** A set of job control statements placed in the input stream that can be used any number of times during a job by naming the procedure in an execute (EXEC) statement.

**instruction** (1) A language construct that specifies an operation and identifies its operands, if any. (T) (2) A statement that specifies an operation to be performed by a system and that identifies data involved in the operation. (3) In COBOL and Pascal, one or more clauses, the first of which starts with a keyword that identifies the instruction. Instructions affect the flow of control, provide services to the programmer, or both.

**instruction address** (1) The address of an instruction word. (I) (A) (2) The address that must be used to fetch an instruction. (A) (3) Contrast with address part.

**instruction address register (IAR)** (1) A special-purpose register used to hold the address of the next instruction to be executed. Synonymous with program register, instruction pointer register. (T) (2) A register in a processor that contains the address of the next instruction to be performed. (3) See also instruction counter, program counter.

**instruction address stop** An instruction address that, when fetched, causes execution to stop.

**instructional design** The field of education that studies the methodology of creating tools, such as computer programs, for enhancing the learning process.

**instruction code** (1) A code for representing the machine instructions of a computer. (T) (2) See computer instruction code. (A)

**instruction control unit** In a processing unit, the part that retrieves instructions in proper sequence, interprets each instruction, and applies the proper signals to the arithmetic and logic unit and other parts in accordance with this interpretation. (I) (A)

**instruction counter** (1) A counter that indicates the location of the next computer instruction to be interpreted. (A) (2) See also instruction address register, program counter.

**instruction element (IE)** A part of a processor that executes some instructions and generates operand addresses and instruction requests. It also controls the sequencing of instructions through the machine and is usually controlled by microcode.

**instruction fetch** The act of getting an instruction from storage and loading it into the correct registers.

**instruction format** The layout of the constituent parts of an instruction. (T)

**instruction marker control** In dictation equipment, a device used to indicate on an index slip or on the recording medium the position at which an instruction is given. (I)

**instruction modifier** A word or part of a word that is used to alter an instruction. (I) (A)

**instruction pointer** In System/38, a pointer that provides addressability for a machine interface instruction in a program.

**instruction pointer register** Synonym for instruction address register. (T)

**instruction register** (1) A register used to hold an instruction for interpretation. (I) (A) (2) See control instruction register.

**instruction repertoire** (1) A complete set of the operators of the statements of a computer programming language, together with a description of the types and meanings that can be attributed to their operands. (A) (2) Loosely, an instruction set. (A)

**instructions** In SAA Basic Common User Access architecture, text on a panel that tells a user how to interact with a panel and how to continue with the application.

**instruction set** (1) The set of instructions of a computer, of a programming language, or of the programming languages in a programming system. (I) (A) (2) See computer instruction set.

**instruction statement** See instruction (I).

**instruction time (I-time)** The time during which an instruction is fetched from the main storage of a computer into an instruction register. See also execution time.

**instruction word** A word that represents an instruction. (I) (A)

**INT** (1) Interior. (2) Internal trace table.

# EXHIBIT 14

IEEE Std 100-1992

# **The New IEEE Standard Dictionary of Electrical and Electronics Terms**

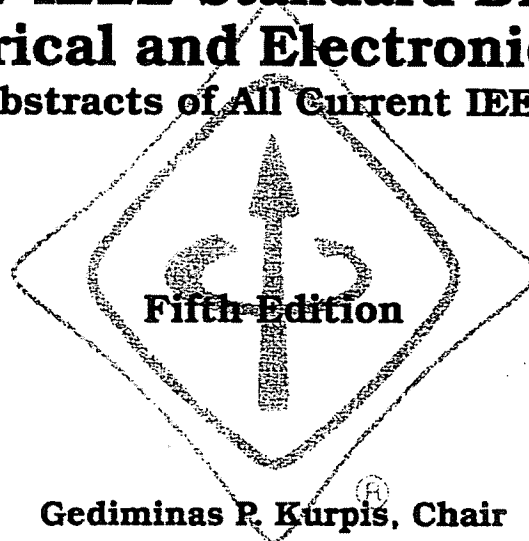
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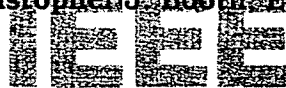
# **The New IEEE Standard Dictionary of Electrical and Electronics Terms**

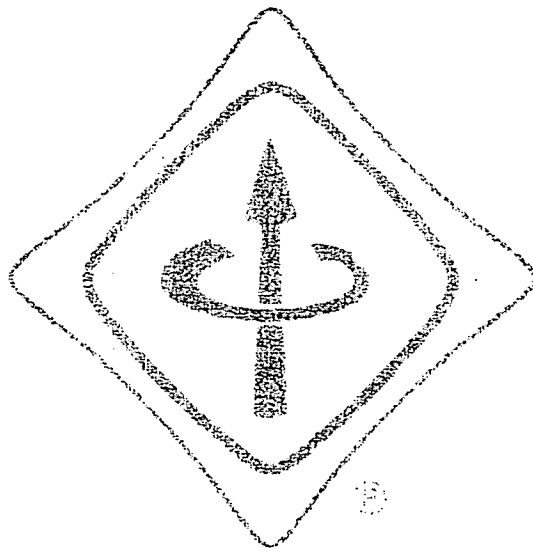
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January 15, 1993

SH15594

A090

coaxial antenna

201

code

**coaxial antenna.** An antenna comprised of a quarter-wavelength extension to the inner conductor of a coaxial line and a radiating sleeve which in effect is formed by folding back the outer conductor of the coaxial line for approximately one-quarter wavelength. See: **antenna.** 145-1983

**coaxial cable (1) (medium attachment units and repeater units).** A two-conductor (center conductor, shield system), concentric, constant-impedance transmission line used as the trunk medium in the baseband system. 8802-3:1990

**(2) (local and metropolitan area networks).** A two-conductor, concentric (center conductor and shield), constant-impedance transmission line. 802.3b,c,d,e-1989

**(3) (broadband local area networks).** A cable with two conductors where one completely surrounds the other. Coax cables are unbalanced transmission lines that have an outer conductor that shields the center conductor from electrostatic interference. The two conductors are spaced by an insulating dielectric that, depending on the mechanical and material configuration, affects the speed, attenuation, and impedance of transmission. 802.7-1989

**coaxial cable interface (medium attachment units and repeater units).** The electrical and mechanical interface to the shared coaxial cable medium either contained within or connected to the medium attachment unit (MAU). Syn: **medium dependent interface (MDI).** 802.3-1985, 8802-3:1990

**coaxial cable section.** A single length of coaxial cable terminated at each end with a BNC male connector. Cable sections are joined to other cable sections via BNC plug/receptacle barrel or Type T adapters. 8802-3:1990

**coaxial cable segment (medium attachment units and repeater units).** A length of coaxial cable made up from one or more coaxial cable sections and coaxial connectors, and terminated at each end in its characteristic impedance. 8802-3:1990

**coaxial conductor.** An electric conductor comprising outgoing and return current paths having a common axis, one of the paths completely surrounding the other throughout its length. 54-1955w

**coaxial detector (germanium gamma-ray detectors).** A semiconductor radiation detector in which all or part of the two electrical contacts are substantially coaxial. Typically one end of each contact configuration is closed (closed-end coaxial detector), but both ends may be open (open-end coaxial detector). 325-1986

**coaxial line.** See: **coaxial.**

**coaxial pair.** See: **coaxial.**

**coaxial relay.** A relay that opens and closes an electric contact switching high-frequency current as required to maintain minimum losses. See: **relay.** 341

**coaxial stop filter (electromagnetic compatibility).** A tuned movable filter set round a conductor in order to limit the radiating length of the conductor for a given frequency. See: **electromagnetic compatibility.** [53], [70]

**coaxial stub.** A short length of coaxial that is joined as a branch to another coaxial. Note: Frequently a coaxial stub is short-circuited at the outer end and its length is so chosen that a high or low impedance is presented to the main coaxial in a certain frequency range. See: **waveguide.** [119]

**coaxial switch.** A switch used with and designed to simulate the critical electric properties of coaxial conductors. 346

**coaxial transmission line (waveguide).** A transmission line consisting of two essentially concentric cylindrical conductors. 146-1980w

**co-channel interference.** Interference caused in one communication channel by a transmitter operating in the same channel. See: **radio transmission.** [34]

**cocktail shaker sort.** An exchange sort in which adjacent pairs of items are compared and exchanged, if necessary, and alternate passes through the set proceed in opposite directions. Contrast with: **bubble sort.** 610.5-1990

**CODASYL.** Acronym for **Conference on Data Systems Languages.** An organization that establishes standards for database structures. 610.5-1990

**CODASYL database.** A database that adheres to the standards established by the Database Task Group of CODASYL. Note: A network database is generally accepted to be synonymous with a CODASYL database. 610.5-1990

**CODASYL model.** A network database model defined by the CODASYL organization. The CODASYL model is based on sets that are used to specify associations between different record types that exist in a database. Syn: **flex model.** 610.5-1990

**CODASYL set.** See: **set.** 610.5-1990

**code (1) (microprocessor object modules).** Data or executable machine code. See: **absolute code; relocatable code.** 695-1985  
**(2) (electronic computers).** (A) The characters or expressions of an originating or source language, each correlated with its equivalent expression in an intermediate or target language, for example, alphanumeric characters correlated with their equivalent six-bit expressions in a binary machine language. Note: For punched or magnetic tape; a predetermined arrangement of possible locations of holes or magnetized areas and rules for interpreting the

various possible patterns. (B) Frequently, the set of expressions in the target language that represent the set of characters of the source language. (C) To encode is to express given information by means of a code. (D) To translate the program for the solution of a problem on a given computer into a sequence of machine-language or pseudo instructions acceptable to that computer. 162-1963

**(3) (computer terminology).** (A) In software engineering, computer instructions and data definitions expressed in a programming language or in a form output by an assembler, compiler, or other translator. *See also:* **source code; object code; machine code; micro-code.** 610.12-1990

(B) To express a computer program in a programming language. 610.12-1990

(C) A set of rules used to convert data from one form of representation to another. *Syn:* **coding scheme; data code; data element tag.**

610.1, 610.5-1990

(D) Data that have been converted from one form of representation to another, using a set of rules as in (A). *See also:* **code set; coded representation; symbol.** *Syn:* **encoded data.**

610.5-1990

(E) Data that have been expressed in symbolic form. 610.1, 610.5-1990

(F) A character or bit pattern that is assigned a particular meaning; for example, a status code. 610.5-1990, 610.12-1990

(G) To convert data from one form of representation to another, using a set of rules as in (A). *See also:* **decode; encode.** 610.5-1990

(H) To represent data in symbolic form. 610.1, 610.5-1990

(I) \* *Syn:* **code set.** 610.5-1990  
\* Deprecated.

**code audit (software).** An independent review of source code by a person, team, or tool to verify compliance with software design documentation and programming standards. Correctness and efficiency may also be evaluated. *See:* **audit; code; correctness; efficiency; inspection; software design documentation; static analysis; tool; walk-through.** 729-1983

**code bin k.** A digital output that corresponds to a particular set of input values. 1057-1989

**code bin width  $W[k]$ .** The difference of the code transition levels that delimit the bin.  $W[k] = T[k + 1] - T[k]$ . 1057-1989

**code breakpoint.** A breakpoint that is initiated upon execution of a given computer instruction. *Syn:* **control breakpoint.** *Contrast with:* **data breakpoint.** *See also:* **dynamic breakpoint; epillog breakpoint; programmable breakpoint; prolog breakpoint; static breakpoint.** 610.12-1990

**codec.** A combination of a coder and decoder operating in different directions of transmission in the same equipment. 1007-1991

**code character.** A particular arrangement of code elements representing a specific symbol or value. 599-1985w, [49]

**code classes (safety systems equipment in nuclear power generating stations).** Levels of structural integrity and quality commensurate with the relative importance of the individual mechanical components of the nuclear power generating station. *Note:* For the recognized code classes, refer to the following documents: ANSI N18.2-1973, *Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants*; ANSI/ANS 51.8, *Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants*; ANSI/ASME BPV-III, *Boiler and Pressure Vessel Code* and its latest addenda, Section III; ANSI/ANS 52.1-1980, *Nuclear Safety Criteria for Design of Stationary BWR Plants.* 627-1980

**code conversion (telephone switching systems).** The substitution of a routing code for a destination code. 312-1977w

**code converter.** A device or system that changes the representation of data from one code to another. 610.5-1990

**coded arithmetic data.** Data stored in a form that is acceptable for arithmetic calculations without conversion to an intermediate form; for example, data stored in integer form. 610.5-1990

**coded character set.** A set of characters for which coded representations exist. *Syn:* **coded representation; code set.** 610.5-1990

**coded decimal.** *See:* **binary-coded decimal.** 610.1

**coded-decimal code.** The decimal number system with each decimal digit expressed by a code. [61], [74]

**code-decode table.** A table that identifies a correspondence between encoded and decoded data items. *Syn:* **encode-decode table.** 610.5-1990

**coded fire-alarm system.** A local fire-alarm system in which the alarm signal is sounded in a predetermined coded sequence. *See:* **protective signaling.** [119]

**code distance.** *See:* **Hamming distance.** 610.1

**coded pulse (radar).** A pulse with internal (intra-pulse) amplitude, frequency, or phase modulation, used for identification or for pulse compression. 686-1982

**coded representation.** The result of applying a code to a particular item of data. For example, the designation ORY for Paris International Airport, obtained by applying the international three-letter code for airports. *Syn:* **code value.** *See:* **coded character set.** 610.5-1990

## computer-aided inspection

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## computer diagram

or repetitive calculations. *See also*: **computer-aided design**; **computer-aided manufacturing**. 610.2-1987, 610.6-1991

**computer-aided inspection (CAI) (computer applications)**. The use of computers to inspect manufactured parts. *Syn*: **mechanical inspection**. 610.2-1987

**computer-aided instruction (CAI) (computer applications)**. The use of computers to present instructional material and to accept and evaluate student responses. *See*: **computer-assisted instruction**; **computer-based instruction**. 610.2-1987

**computer-aided management (CAM) (computer applications)**. The application of computers to business management activities. For example, database management, control reporting, and information retrieval. *See also*: **decision support system**; **management information system**. 610.2-1987

**computer-aided manufacturing (CAM) (computer applications) (computer graphics)**. The use of computers and numerical control equipment to aid in manufacturing processes. May include robotics, automation of testing, management functions, control, and product assembly. Often used in combinations such as CAD/CAM. *See*: **computer-aided design**; **computer-aided engineering**. 610.2-1987, 610.6-1991

**computer-aided page makeup (computer applications)**. The use of computers to automate the formation of text and graphics into discrete camera-ready pages. *See also*: **computer-aided typesetting**, **photocomposition**. 610.2-1987

**computer-aided software engineering (CASE) (software)**. The use of computers to aid in the software engineering process. May include the application of software tools to software design, requirements tracing, code production, testing, document generation, and other software engineering activities. 610.12-1990

**computer-aided testing (CAT)**. The use of computers to test manufactured parts. 610.2-1987

**computer-aided typesetting (computer applications)**. The use of computers at any stage of the document composition process. This may involve text formatting, input from a word processing system, or computer-aided page makeup. *Syn*: **computer typesetting**. 610.2-1987

**computer-assisted instruction (CAI)**. The use of computers to present instructional material and to accept and evaluate student responses. 610.2-1987

**computer-assisted instruction (CAI)**. The use of computers to present instructional material and to accept and evaluate student responses. *Syn*: **computer-aided education**; **computer-aided instruction**; **computer-assisted learn-**

**ing**; **computer-augmented learning**. *See also*: **computer-based instruction**. 610.2-1987, 610.6-1991

**computer-assisted learning (CAL)**. *See*: **computer-assisted instruction**. 610.2-1987

**computer-assisted tester (test, measurement, and diagnostic equipment)**. A test not directly programmed by a computer but that operates in association with a computer by using some arithmetic functions of the computer. [2]

**computer-assisted tomography (CAT)**. *See*: **computed tomography**. 610.2-1987

**computer-augmented learning (CAL)**. *See*: **computer-assisted instruction**. 610.2-1987

**computer-based education (CBE)**. *See*: **computer-based instruction**. 610.2-1987

**computer-based instruction (CBI) (computer applications)**. The use of computers to support any process involving human learning. *Syn*: **computer-based education**; **computer-based learning**. 610.2-1987

**computer-based learning (CBL)**. *See*: **computer-based instruction**. 610.2-1987

**computer-based simulation**. A simulation that is executed on a computer. *Syn*: **machine-centered simulation**. *Contrast with*: **human-centered simulation**. 610.3-1989

**computer code**. A machine code for a specific computer. [20], [85]

**computer component (analog computers)**. Any part, assembly, or subdivision of a computer, such as resistor, amplifier, power supply, or rack. 165-1977

**computer conferencing (computer applications)**. A form of teleconferencing that allows one or more users to exchange messages on a computer network. *See also*: **video conferencing**. 610.2-1987

**computer control (physical process) (electric power systems)**. A mode of control wherein a computer, using as input the process variables, produces outputs that control the process. *See*: **power system**. [54]

**computer-control state (analog computers)**. One of several distinct and selectable conditions of the computer-control circuits. *See*: **balance check**; **hold**; **operate**; **potentiometer set**; **reset**; **static test**. 165-1977

**computer data (software)**. Data available for communication between or within computer equipment. Such data can be external (in computer-readable form) or resident within the computer equipment and can be in the form of analog or digital signals. *See*: **computer**. 729-1983

**computer diagram (analog computers)**. A functional drawing showing interconnections between computing elements, such intercon-



instantaneous trip or suppression

651

instrumentation tool

introduced in the tripping action of the circuit breaker. [86]

**instantaneous trip or suppression (thyristor).** The means to sense an overload and reduce the output current to zero, as fast as practicable. 428-1981

**instantiation (software).** The process of substituting specific data, instructions, or both into a generic program unit to make it usable in a computer program. 610.12-1990

**instant of chopping (high voltage testing) (chopped impulses).** The instant of chopping is the instant when the initial discontinuity occurs. 4-1978

**instant start fluorescent lamp (illuminating engineering).** A fluorescent lamp designed for starting by a high voltage without preheating of the electrodes. [126]

**institutional design.** Emphasizes reliability, resistance to wear and use, safety to public, and special aesthetic considerations, such as the "agelessness" of the structure. 24-1990

**instruction (1) (programmable digital computer systems in safety systems of nuclear power generating stations).** A meaningful expression in a computer programming language that specifies an operation to a digital computer. 554

**(2) (software).** See: **computer instruction.** 610.12-1990

**(3) (BTL interface circuits).** A binary data word shifted serially into the test logic defined by this standard in order to define its subsequent operation. 1149.1-1990

**instructional character.** See: **control character.** 610.5-1990

**instructional game (computer applications).** An instruction method employed by some computer-assisted instruction systems in which a game is used to instruct the student on some subject. Contrast with: **question-and-answer interaction; simulation.** 610.2-1987

**instructional simulation (modeling and simulation).** A simulation intended to provide an opportunity for learning or to evaluate learning or educational potential; for example, a simulation in which a mock-up of an airplane cockpit is used to train student pilots. Syn: **academic simulation; tutorial simulation.** 610.3-1989

**instruction counter (software).** A register that indicates the location of the next computer instruction to be executed. Syn: **program counter.** 610.12-1990

**instruction cycle (software).** The process of fetching a computer instruction from memory and executing it. See also: **instruction time.** 610.12-1990

**instruction format (software).** The number and arrangement of fields in a computer instruc-

tion. See also: **address field; address format; operation field.** 610.12-1990

**instruction length (software).** The number of words, bytes, or bits needed to store a computer instruction. See also: **instruction format.** 610.12-1990

**instruction modifier (software).** A word or part of a word used to alter a computer instruction. 610.12-1990

**instruction repertoire (software).** See: **instruction set.** 610.12-1990

**instruction set (software).** The complete set of instructions recognized by a given computer or provided by a given programming language. Syn: **instruction repertoire.** 610.12-1990

**instruction set architecture (software).** An abstract machine characterized by an instruction set. See: **abstract machine; instruction set.** 729-1983

**instruction time (software).** The time it takes a computer to fetch an instruction from memory and execute it. See also: **instruction cycle.** 610.12-1990

**instruction trace.** See: **trace.** 729-1983

**instrument (1) (plutonium monitoring).** A complete system designed to quantify a particular type of ionizing radiation. N317-1980

**(2) (radiation protection).** A complete system designed to quantify one or more particular ionizing radiation or radiations. N323-1978

**(3) (software).** In software and system testing, to install or insert devices or instructions into hardware or software to monitor the operation of a system or component. 610.12-1990

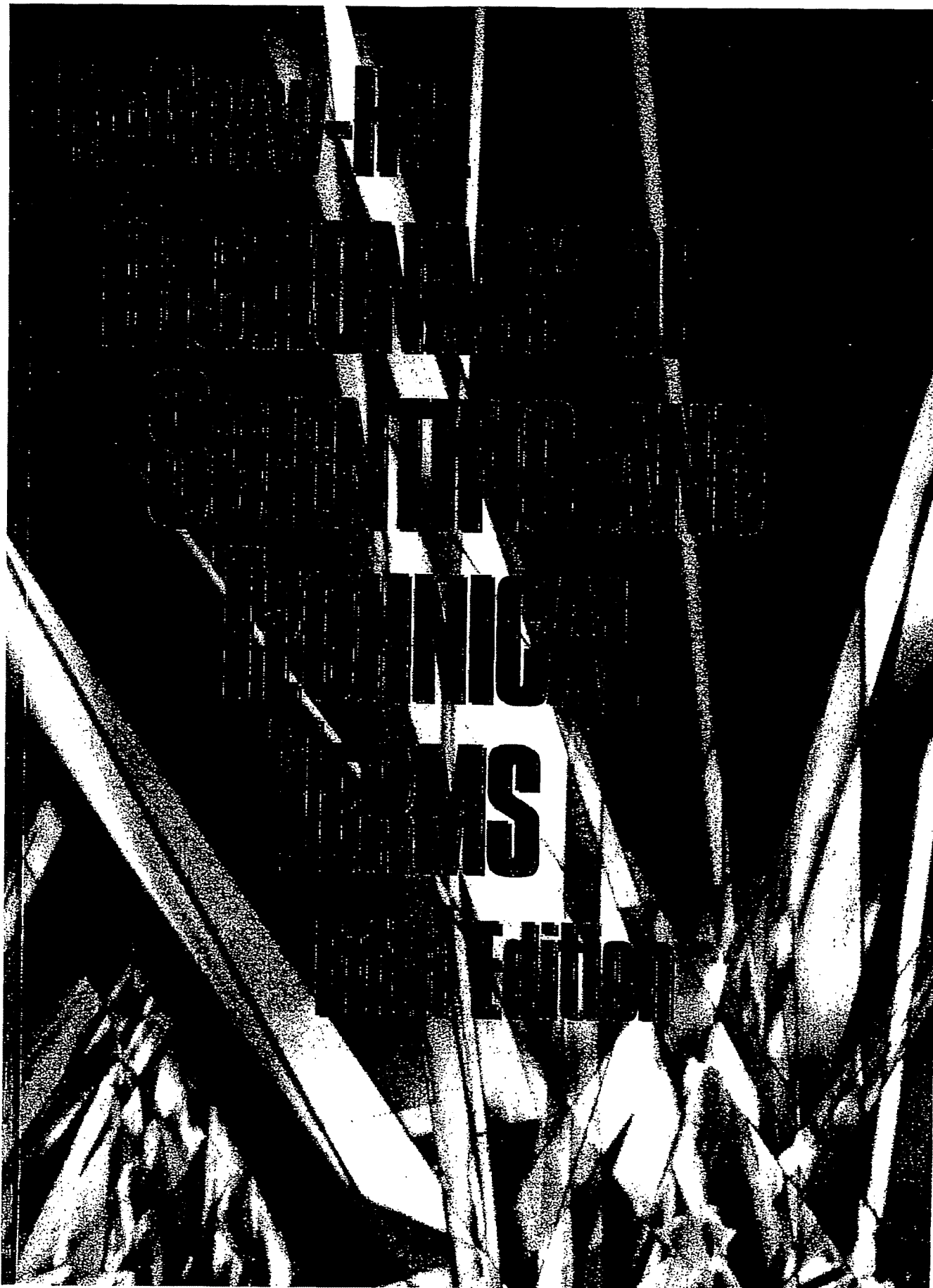
**(4) (airborne radioactivity monitoring instrumentation).** A complete system designed to quantify one or more characteristics of ionizing radiation or radioactive material. N42.17B-1990

**instrumentation (software).** Devices or instructions installed or inserted into hardware or software to monitor the operation of a system or component. 610.12-1990

**instrumentation cable.** A cable that carries low level electric energy from a transducer to a measuring or controlling device. It may be used in environments such as high temperature, high radiation levels, and high electromagnetic fields. An instrumentation cable may consist of a group of two or more paired or unpaired, shielded or unshielded, solid or stranded insulated conductors. 789-1988

**instrumentation tool (software).** A software tool that generates and inserts counters or other probes at strategic points in another program to provide statistics about program execution such as how thoroughly the program's code is exercised. See: **code; execution; program; software tool.** 729-1983

# EXHIBIT 15





# **McGraw-Hill Dictionary of Scientific and Technical Terms**

## **Fifth Edition**

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On the cover: Photomicrograph of crystals of vitamin B<sub>1</sub>.  
(Dennis Kunkel, University of Hawaii)

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#### McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, Fifth Edition

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#### INTERNATIONAL EDITION

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## coconut bud rot

**coconut bud rot** [PL PATH] A fungus disease of the coconut palm caused by *Phytophthora palmivora* and characterized by destruction of the terminal bud and adjacent leaves. { 'kō-kə,nət 'bəd,rāt }

**coconut oil** [MATER] A nearly colorless or yellow oil from fresh coconut (*Cocos nucifera*) or from copra (dried coconut); used in foods, in making soap, and as a raw material in fatty-acid production. { 'kō-kə,nət,ōil }

**cocoon** [INV ZOO] 1. A protective case formed by the larvae of many insects, in which they pass the pupa stage. 2. Any of the various protective egg cases formed by invertebrates. { 'kō'kūn }

**cocurrent line** [OCEANOGR] A line through places having the same tidal current hour. { 'kō'kər-ənt 'līn }

**cocycle** [MATH] A chain of simplices whose coboundary is 0. { 'kō'sfkl }

**cod** [VECT ZOO] The common name for fishes of the subfamily Gadidae, especially the Atlantic cod (*Gadus morrhua*). { 'kād }

**codan** [ELECTR] A device that silences a receiver except when a modulated carrier signal is being received. { 'kō,dən }

**codan lamp** [COMMUN] Visual indication that a usable transmitted signal has been received by a particular radio receiver. { 'kō,dən,lamp }

**CODAR** See correlation, detection, and ranging. { 'kō,dār }

**Coddington lens** [OPTICS] A magnifier consisting of a glass sphere with a deep groove cut around a great circle to serve as a stop. { 'kōd-īn-tən,lens }

**Coddington shape factor** See shape factor. { 'kōd-īn-tən 'shāp,faktər }

**code** [COMMUN] A system of symbols and rules for expressing information, such as the Morse code, Electronic Industries Association color code, and the binary and other machine languages used in digital computers. { 'kōd }

**code area** [GRAPHICS] On a microform, a portion of the image area or film frame that is reserved for retrieval coding. { 'kōd,er-ə }

**code beacon** [NAV] A beacon that flashes a characteristic signal by which it may be recognized. { 'kōd,bē-kən }

**code book** [COMMUN] A book containing a large number of plaintext words, phrases, and sentences and their codetext equivalents. { 'kōd,būk }

**codec** [ELECTR] A device that converts analog signals to digital form for transmission and converts signals traveling in the opposite direction from digital to analog form. Derived from coder-decoder. { 'kō,dek }

**codecarboxylase** [BIOCHEM] The prosthetic component of the enzyme carboxylase which catalyzes decarboxylation of D-amino acids. Also known as pyridoxal phosphatase. { 'kō-dē-kār'bāk-sē,lās }

**code-check** [COMPUT SCI] To remove mistakes from a coded routine or program. { 'kōd,ček }

**code checking time** [COMPUT SCI] Time spent checking out a problem on the computer, making sure that the problem is set up correctly and that the code is correct. { 'kōd,čekiŋ,tīm }

**codeclination** [NAV] In celestial navigation, 90° minus the declination; when the declination and latitude are of the same name, codeclination is the same as polar distance measured from the elevated pole. { 'kō,dek'lē'nā-shən }

**code converter** [COMPUT SCI] A converter that changes coded information to a different code system. { 'kōd,kən'vərd-ər }

**coded character set** [COMPUT SCI] A set of characters together with the code assigned to each character for computer use. { 'kōd-əd 'karik-tər,se }

**coded decimal** See decimal-coded digit. { 'kōd-əd 'des-məl }

**code density** [GRAPHICS] The number of code elements per unit length that can appear on a microfilm. { 'kōd,den-sēd-ē }

**coded interrogator** [COMMUN] An interrogator whose output signal forms the code required to trigger a specific radio or radar beacon. { 'kōd-əd 'tēr-ə,gād-ər }

**code-division multiple access** [COMMUN] The transmission of messages from a large number of transmitters over a single channel by assigning each transmitter a pseudorandom noise code (typically more than 2000 symbols long for each bit of information) so that the codes are mathematically independent of each other. Abbreviated CDMA. { 'kōd də'vīz-ən 'māl-təpəl 'ak,ses }

**code-division multiplex** [COMMUN] Multiplex in which two or more communication links occupy the entire transmission channel simultaneously, with code signal structures designed so

a given receiver responds only to its own signals and treats the other signals as noise. Abbreviated CDM. { 'kōd də'vīz-ən 'māl-ti,pleks }

**coded mask** [ENG] A pattern of elements that absorb gamma-ray photons in a gamma-ray telescope. { 'kōd-əd,mask }

**coded passive reflector antenna** [ELECTROMAG] An object intended to reflect Hertzian waves and having variable reflecting properties according to a predetermined code for the purpose of producing an indication on a radar receiver. { 'kōd-əd 'pas-iv ri'flek-tər an,ten-ə }

**coded program** [COMPUT SCI] A program expressed in the required code for a computer. { 'kōd-əd 'prō-gram }

**coded stop** [COMPUT SCI] A stop instruction built into a computer routine. { 'kōd-əd 'stāp }

**code element** [COMMUN] One of the separate elements or events constituting a coded message, such as the presence or absence of a pulse, dot, dash, or space. { 'kōd,el-ə-mənt }

**code error** [COMPUT SCI] A surplus or lack of a bit or bits in a machine instruction. { 'kōd,er-ər }

**code extension** [COMPUT SCI] A method of increasing the number of characters that can be represented by a code by combining characters into groups. { 'kōd ik,sten-čən }

**code group** [COMMUN] A combination of letters or numerals or both, assigned to represent one or more words of plain text in a coded message. { 'kōd,grüp }

**code holes** [COMPUT SCI] The informational holes in perforated tape, as opposed to the feed holes or other holes. { 'kōd,hōlz }

**codehydrogenase** See diphosphopyridine nucleotide. { 'kō-dē'hīdr-ə-jə,nās 'wən }

**codehydrogenase II** See triphosphopyridine nucleotide. { 'kō-dē'hīdr-ə-jə,nās 'tīl }

**codeine** [PHARM] C<sub>18</sub>H<sub>21</sub>NO<sub>3</sub> An alkaloid prepared from morphine; used as mild analgesic and cough suppressant. { 'kō,dēn }

**code line** [COMPUT SCI] In character recognition, the area reserved for the inscription of the printed or handwritten characters to be recognized. { 'kōd,līn }

**code medium** [GRAPHICS] A reflective or transmissive material used for coding on a microform. { 'kōd,mē-dē-əm }

**code position** [COMPUT SCI] A location in a data-recording medium at which data may be entered, such as the intersection of a column and a row on a punch card, at which a hole may be punched. { 'kōd pə'zīsh-ən }

**code practice oscillator** [ELECTR] An oscillator used with a key and either headphones or a loudspeaker to practice sending and receiving Morse code. { 'kōd 'praktəs 'ās-ə,lād-ər }

**coder** [COMMUN] A device that generates a code by generating pulses having varying lengths or spacings, as required for radio beacons and interrogators. Also known as modulator; pulse coder; pulse-duration coder. [COMPUT SCI] A person who translates a sequence of computer instructions into codes acceptable to the machine. { 'kōd-ər }

**coder-decoder** See codec. { 'kōd-ər də'kōd-ər }

**code reader** [COMPUT SCI] A scanning device used for automated identification of a two-dimensional pattern, one part after the other, and generation of either analog or digital signals that correspond to the pattern. Also known as code scanner. { 'kōd,rēd-ər }

**code ringing** [COMMUN] In telephone switching, party-line ringing wherein the number or duration of rings indicates which station is being called. { 'kōd,rīŋ-ŋ }

**code scanner** See code reader. { 'kōd,skan-ər }

**code-sending radiosonde** [ENG] A radiosonde which transmits the indications of the meteorological sensing elements in the form of a code consisting of combinations of dots and dashes. Also known as code-type radiosonde; contracted code sonde. { 'kōd,send-īŋ 'rād-ē-ō,sänd }

**code sensitivity** [COMPUT SCI] Property of hardware or software that can handle only data presented in a particular code. { 'kōd,sen-sē-tīv-əd-ē }

**code signal** [COMMUN] A sequence of discrete conditions or events corresponding to a coded message. { 'kōd,sīgnəl }

**codetext** [COMMUN] A message which has been transformed by a code into a form which can be read only by those privy to the secrets of the code. { 'kōd,tēkst }

**code translation** [COMMUN] Conversion of a directory code or number into a predetermined code for controlling the selection of an outgoing trunk or line. { 'kōd tranz,lā-shən }

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COD



*Gadus morrhua*, a codfish.

## computer-aided management

## computer part programming | 429

- computer-aided management of instruction** *See* computer-managed instruction. { kəm'pyüd-ər, äd-əd 'manijmənt əv in'stræk-shən }
- computer-aided manufacturing** [COMPUT SCI] The use of computers to communicate work instructions to automatic machinery for the handling and processing needed to produce a workpiece. Abbreviated CAM. { kəm'pyüd-ər, äd-əd, 'man-ə'fak-chəriŋ }
- computer-aided software engineering** [COMPUT SCI] The use of software packages to assist in all phases of the development of an information system, including analysis, design, and programming. Abbreviated CASE. { kəm'pyüd-ər, äd-əd, 'sɒft,weɪ ɛnʤə'niriŋ }
- computer analyst** [COMPUT SCI] A person who defines a problem, determines exactly what is required in the solution, and defines the outlines of the machine solution; generally, an expert in automatic data processing applications. { kəm'pyüd-ər 'æn-ə,li:st }
- computer animation** [COMPUT SCI] The use of a computer to present, either continuously or in rapid succession, pictures on a cathode-ray tube or other device, graphically representing a time developing system at successive times. { kəm'pyüd-ər æn-ə'meɪʃən }
- computer architecture** [COMPUT SCI] The art and science of assembling logical elements to form a computing device. { kəm'pyüd-ər 'är-kə,tek-tʃər }
- computer-assisted instruction** [COMPUT SCI] The use of computers to present drills, practice exercises, and tutorial sequences to the student, and sometimes to engage the student in a dialog about the substance of the instruction. Abbreviated CAI. Also known as computer-aided instruction; computer-assisted learning (CAL). { kəm'pyüd-ər ə'sistəd in'stræk-shən }
- computer-assisted learning** *See* computer-assisted instruction. { kəm'pyüd-ər ə'sistəd 'lærniŋ }
- computer-assisted retrieval** [COMPUT SCI] The use of a computer to locate documents or records stored outside of the computer, on paper or microfilm. Abbreviated CAR. { kəm'pyüd-ər ə'sistəd ri'treɪ-vəl }
- computer center** *See* electronic data-processing center. { kəm'pyüd-ər, 'sentər }
- computer code** [COMPUT SCI] The code representing the operations built into the hardware of a particular computer. { kəm'pyüd-ər, 'kɒd }
- computer conferencing** *See* computer networking. { kəm'pyüd-ər 'kɒnfrɛnsiŋ }
- computer control** [COMPUT SCI] *See* control. [CONT SYS] Process control in which the process variables are fed into a computer and the output of the computer is used to control the process. { kəm'pyüd-ər kən'trɒl }
- computer control counter** [COMPUT SCI] Counter which stores the next required address; any counter which furnishes information to the control unit. { kəm'pyüd-ər kən'trɒl, 'kaunt-ər }
- computer-controlled system** [CONT SYS] A feedback control system in which a computer operates on both the input signal and the feedback signal to effect control. { kəm'pyüd-ər kən'trɒld, 'sistəm }
- computer control register** *See* program register. { kəm'pyüd-ər kən'trɒl rej-ə'stər }
- computer efficiency** [COMPUT SCI] 1. The ratio of actual operating time to scheduled operating time of a computer. 2. In time-sharing, the ratio of user time to the sum of user time plus system time. { kəm'pyüd-ər i'fisi-ənsi }.
- computer entry punch** [COMPUT SCI] Combination card-reader and key punch that enters data directly onto a computer's memory drum. { kəm'pyüd-ər 'entrɪ, 'pʌnʃ }
- computer graphics** [COMPUT SCI] The process of pictorial communication between humans and computers, in which the computer input and output have the form of charts, drawings, or appropriate pictorial representation; such devices as cathode-ray tubes, mechanical plotting boards, curve tracers, coordinate digitizers, and light pens are employed. { kəm'pyüd-ər 'ɡraf-iks }
- computer graphics interface** [COMPUT SCI] A standard format for writing graphics drivers. Abbreviated CGI. { kəm'pyüd-ər 'ɡrafiks 'intər,fæs }
- computer graphics metafile** [COMPUT SCI] A standard device-independent graphics format that is used to transfer graphics images between computer programs and storage devices. Abbreviated CGM. { kəm'pyüd-ər 'ɡrafiks 'med-ə,fil }
- computer input from microfilm** [COMPUT SCI] The technique of reading images on microfilm and transforming them into a form which is understandable to a computer. Abbreviated CIM. { kəm'pyüd-ər 'in,pʊt frəm 'mɪkrə,fil'm }
- computer-integrated manufacturing** [IND ENG] A system in which the engineering, production, marketing, and support functions of a manufacturing enterprise are coordinated by a computer-integrated operation. Abbreviated CIM. { kəm'pyüd-ər 'in-tə,ɡrəd-əd, 'man-ə'fak-chəriŋ }
- computerized axial tomography** *See* computerized tomography. { kəm'pyüd-ər, 'rɪzd 'æks-əl tə'mə-ɡrə'fi }
- computerized branch exchange** [COMMUN] A computer-controlled telephone switching system that supports such services as conference calling, least-cost routing, direct inward dialing, and automatic rerouting of a busy line. Abbreviated CBX. { kəm'pyüd-ər, 'rɪzd 'brʌnʃ iks'tʃæŋj }
- computerized composition** [GRAPHICS] Type composition in which line-end hyphenation and other typographic work has been done by a computer working from unjustified tape. { kəm'pyüd-ər, 'rɪzd, 'kɒm-pə'ziʃən }
- computerized tomography** [MED] The process of producing a picture showing human body organs in cross section by first electronically detecting the variation in x-ray transmission through the body section at different angles, and then using this information in a digital computer to reconstruct the x-ray absorption of the tissues at an array of points representing the cross section. Abbreviated CT. Also known as computed tomography; computerized axial tomography (CAT). { kəm'pyüd-ər, 'rɪzd tə'mə-ɡrə'fi }
- computer-limited** [COMPUT SCI] Pertaining to a situation in which the time required for computation exceeds the time required to read inputs and write outputs. { kəm'pyüd-ər, 'lim-əd-əd }
- computer literacy** [COMPUT SCI] Knowledge and understanding of computers and computer systems and how to apply them to the solution of problems. { kəm'pyüd-ər 'litərə-si }
- computer-managed instruction** [COMPUT SCI] The use of computer assistance in testing, diagnosing, prescribing, grading, and record keeping. Abbreviated CMI. Also known as computer-aided management of instruction. { kəm'pyüd-ər 'man-ɪdʒ in'stræk-shən }
- computer memory** *See* memory. { kəm'pyüd-ər 'memrɪ }
- computer modelling** [COMPUT SCI] The use of a computer to develop a mathematical model of a complex system or process and to provide conditions for testing it. { kəm'pyüd-ər 'mɒd-əlɪŋ }
- computer network** [COMPUT SCI] A system of two or more computers that are interconnected by communication channels. { kəm'pyüd-ər 'net, wɜ:k }
- computer networking** [COMMUN] The use of a network of computers and computer terminals by individuals at various locations to interact with each other by entering data into the computer system. Also known as computer conferencing. { kəm'pyüd-ər 'net, wɜ:k-iŋ }
- computer numerical control** [CONT SYS] A control system in which numerical values corresponding to desired tool or control positions are generated by a computer. Abbreviated CNC. Also known as computational numerical control; software numerical control; stored-program numerical control. { kəm'pyüd-ər nʊ'mer-ikəl kən'trɒl }
- computer operation** [COMPUT SCI] The electronic action that is required in a computer to give a desired computation. { kəm'pyüd-ər ə'pə-rʃən }
- computer-oriented language** [COMPUT SCI] A low-level programming language developed for use on a particular computer or line of computers produced by a specific manufacturer. Also known as machine-oriented language. { kəm'pyüd-ər 'ɔr-ɪ-entəd 'læŋ-gwɪj }
- computer output on microfilm** [COMPUT SCI] The generation of microfilm which displays information developed by a computer. Abbreviated COM. { kəm'pyüd-ər 'aʊt,pʊt ɒn 'mɪkrə,fil'm }
- computer-output typesetting** [GRAPHICS] Production of graphic arts quality printout of computer information on photographic paper or film. { kəm'pyüd-ər 'aʊt,pʊt 'tɪp,seɪ-iŋ }
- computer part programming** [CONT SYS] The use of com-



**Instantaneous condition** [PHYS] The condition of a system at a particular instant in time. { 'in-stən, 'tā-nē-əs kən'dishən }

**Instantaneous cut** [ENG] A cut that is set off by instantaneous detonators to be certain that all charges in the cut go off at the same time; the drilling and ignition are carried out so that all the holes break smaller top angles. { 'in-stən, 'tā-nē-əs 'kət }

**Instantaneous description** [COMPUT SCI] For a Turing machine, the set of machine conditions at a given point in the computation, including the contents of the tape, the position of the read-write head on the tape, and the internal state of the machine. { 'in-stən, 'tā-nē-əs di'skrip-shən }

**Instantaneous detonator** [ENG] A type of detonator that does not have a delay period between the passage of the electric current through the detonator and its explosion. { 'in-stən, 'tā-nē-əs 'det-ən, ād-ər }

**Instantaneous effects** [COMMUN] Impairment of telephone or telegraph transmission caused by instantaneous changes in phase or amplitude of the wave in a transmission line. { 'in-stən, 'tā-nē-əs i'feks }

**Instantaneous field of view** [OPTICS] The solid angle within which radiation is detected by an imaging system employing some form of scanning mechanism, at a given instant of time. { 'in-stən, 'tā-nē-əs 'fild əv 'vyū }

**Instantaneous frequency** [COMMUN] The time rate of change, divided by  $2\pi$ , of a phase angle whose sine is proportional to the amplitude of a frequency-modulated wave. { 'in-stən, 'tā-nē-əs 'frē-kwənsē }

**Instantaneous frequency-indicating receiver** [ELECTR] A radio receiver with a digital, cathode-ray, or other display that shows the frequency of a signal at the instant it is picked up anywhere in the band covered by the receiver. { 'in-stən, 'tā-nē-əs 'frē-kwənsē, in-də, kād-īŋ ri'sē-vər }

**Instantaneous fuse** [ENG] A fuse with an ignition rate of several thousand feet per minute; an example is PETN. { 'in-stən, 'tā-nē-əs 'fyūz }

**Instantaneous power** [ELEC] The product of the instantaneous voltage and the instantaneous current for a circuit or component. { 'in-stən, 'tā-nē-əs 'paʊ-ər }

**Instantaneous readout** [COMMUN] Readout by a radio transmitter instantaneous with the computation of data to be transmitted. { 'in-stən, 'tā-nē-əs 'rēd, aʊt }

**Instantaneous recording** [ENG ACOUS] A recording intended for direct reproduction without further processing. { 'in-stən, 'tā-nē-əs ri'kɔrd-īŋ }

**Instantaneous recovery** [MECH] The immediate reduction in the strain of a solid when a stress is removed or reduced, in contrast to creep recovery. { 'in-stən, 'tā-nē-əs ri'kəv-ə-rē }

**Instantaneous sample** [COMMUN] One of a sequence of instantaneous values of a wave taken at regular intervals. { 'in-stən, 'tā-nē-əs 'səmp-əl }

**Instantaneous strain** [MECH] The immediate deformation of a solid upon initial application of a stress, in contrast to creep strain. { 'in-stən, 'tā-nē-əs 'strān }

**Instantaneous value** [PHYS] The value of a sinusoidal or otherwise varying quantity at a particular instant. { 'in-stən, 'tā-nē-əs 'val-yū }

**Instant center** See instantaneous center. { 'in-stənt 'sen-tər }

**Instantiation** [COMPUT SCI] 1. An external declaration or a reference to another program or subprogram in the Ada programming language. 2. The deduction of omitted values in a set of data from the known values. 3. The creation of an object of a specific class in an object-oriented program. { in-stan- chē'ā-shən }

**Instantizing** [FOOD ENG] Redrying a wet agglomerate of non-fat dry milk powder to render the product more easily reconstituted. { 'in-stən, āz-īŋ }

**Instanton** [PARTIC PHYS] A hypothetical pseudoparticle which provides solutions to equations describing the gauge fields of quantum chromodynamics, and represents large vacuum fluctuations in these fields that would exert forces on quarks. { 'in-stən, tən }

**Instant-on switch** [ELECTR] A switch that applies a reduced filament voltage to all tubes in a television receiver continuously, so the picture appears almost instantaneously after the set is turned on. { 'in-stən: 'ɒn, switʃ }

**Instant replay** See video replay. { 'in-stənt 'rē, plā }

**instar** [INV ZOO] A stage between molts in the life of arthropods, especially insects. { 'in, stār }

**instep** [ANAT] The arch on the medial side of the foot. { 'in, step }

**instinct** [PSYCH] A primary tendency or inborn drive, as toward life, sexual reproduction, and death. [ZOO] A precise form of behavior in which there is an invariable association of a particular series of responses with specific stimuli; an unconditioned compound reflex. { 'in, stɪŋkt }

**Instinctive behavior** [ZOO] Any species-typical pattern of responses not clearly acquired through training. { in'stɪŋkt-iv bi'hā-vyər }

**Instinctual** [PSYCH] Pertaining to an emotional, impulsive, and generally unreasoned behavior or mental process which is a function of the id. [ZOO] Of or pertaining to instincts. { in'stɪŋkt-ʃə-wəl }

**Instruction** [COMPUT SCI] A pattern of digits which signifies to a computer that a particular operation is to be performed and which may also indicate the operands (or the locations of operands) to be operated on. { in'strəks-shən }

**Instruction address** [COMPUT SCI] The address of the storage location in which a given instruction is stored. { in'strəks-shən ə'dres }

**Instruction address register** [COMPUT SCI] A special storage location, forming part of the program controller, in which addresses of instructions are stored in order to control their sequential retrieval from memory during the execution of a program. { in'strəks-shən ə'dres 'rej-ə-star }

**Instruction area** [COMPUT SCI] A section of storage used for storing program instructions. { in'strəks-shən, ə-rē-ə }

**Instruction card** [IND ENG] A written description of the standard method used by a worker, to guide his activities. { in'strəks-shən, kɑrd }

**Instruction code** [COMPUT SCI] That part of an instruction which distinguishes it from all other instructions, and specifies the action to be performed. { in'strəks-shən, kɔd }

**Instruction constant** [COMPUT SCI] A dummy instruction of the type  $K = 1$ , where  $K$  is irrelevant to the program. { in'strəks-shən, kən'stant }

**Instruction counter** [COMPUT SCI] A counter that indicates the location of the next computer instruction to be interpreted. Also known as location counter; program counter; sequence counter. { in'strəks-shən, kəunt-ər }

**Instruction cycle** [COMPUT SCI] The steps involved in carrying out an instruction. { in'strəks-shən, sɪkl }

**Instruction deck** [COMPUT SCI] Set of cards punched to contain a symbolic coded program to be read into a computer. { in'strəks-shən, dek }

**Instruction format** [COMPUT SCI] Any rule which assigns various functions to the various digits of an instruction. { in'strəks-shən, fɔr, mat }

**Instruction length** [COMPUT SCI] The number of bits or bytes (eight bits per byte) which defines an instruction. { in'strəks-shən, lɛŋkθ }

**Instruction lookahead** [COMPUT SCI] A technique for speeding up the process of fetching and decoding instructions in a computer program, and of computing addresses of required operands and fetching them, in which the control unit fetches any unexecuted instructions on hand, to the extent this is feasible. Also known as fetch ahead. { in'strəks-shən 'lʊk-ə, hed }

**Instruction mix** [COMPUT SCI] The proportion of various types of instructions that appear in a particular computer program, or in a benchmark representing a class of programs. { in'strəks-shən, mɪks }

**Instruction modification** [COMPUT SCI] A change, carried out by the program, in an instruction so that, upon being repeated, this instruction will perform a different operation. { in'strəks-shən, mɔd-ə-fə 'kā-shən }

**Instruction pointer** [COMPUT SCI] 1. A component of a task descriptor that designates the next instruction to be executed by the task. 2. An element of the control component of the stack model of block structure execution, which points to the current instruction. { in'strəks-shən, 'pɔɪnt-ər }

**Instruction register** [COMPUT SCI] A hardware element that receives and holds an instruction as it is extracted from memory; the register either contains or is connected to circuits that interpret the instruction (or discover its meaning). Also known as current-instruction register. { in'strəks-shən, 'rej-ə-star }

**Instruction repertory** See instruction set. { in'strəks-shən, 'rep- ə, tɔr-ē }

**instruction set** [COMPUT SCI] Also known as instruction rep-

# EXHIBIT 16

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**cobweb site**

wants to add; an Environment Division, which specifies the computer(s) being used and the files used in the program for input and output; a Data Division, which describes the format of the data structures used in the program; and a Procedure Division, which contains the procedures that dictate the actions of the program. *See also* compiled language.

**cobweb site** \kɒbˈweb sɪt\ *n.* A Web site that is far out of date. *See also* Web site.

**CODASYL** \kɒˈdɑːsɪl, ˈCɒ-DˈA-SˈY-L\ *n.* Acronym for **C**onference on **D**ata **S**ystems **L**anguages. An organization founded by the U.S. Department of Defense. CODASYL is dedicated to the development of data-management systems and languages, among them the widely used COBOL business language.

**code**<sup>1</sup> \kɒd\ *n.* 1. Program instructions. Source code consists of human-readable statements written by a programmer in a programming language. Machine code consists of numerical instructions that the computer can recognize and execute and that were converted from source code. *See also* data, program. 2. A system of symbols used to convert information from one form to another. A code for converting information in order to conceal it is often called a *cipher*. 3. One of a set of symbols used to represent information.

**code**<sup>2</sup> \kɒd\ *vb.* To write program instructions in a programming language. *See also* program.

**codec** \kɒˈdek\ *n.* 1. Short for **c**oder/**d**ecoder. Hardware that can convert audio or video signals between analog and digital forms. 2. Short for **c**ompressor/**d**ecompressor. Hardware or software that can compress and uncompress audio or video data. *See also* compress<sup>2</sup>, uncompress. 3. Hardware that combines the functions of definitions 1 and 2.

**code conversion** \kɒdˈkən-vərˈzhən\ *n.* 1. The process of translating program instructions from one form into another. Code may be converted at the source-language level (for example, from C to Pascal), at the hardware-platform level (for example, from working on the IBM PC to working on the Apple Macintosh), or at the language level (for example, from source code in C to machine code). *See also* code<sup>1</sup> (definition 1). 2. The process of transforming data from one representation to

**coding form**

another, such as from ASCII to EBCDIC or from two's complement to binary-coded decimal.

**Code Division Multiple Access** \kɒd də-vɪzˈən mʌlˈtə-pl əkˈses\ *n.* A form of multiplexing in which the transmitter encodes the signal, using a pseudo-random sequence that the receiver also knows and can use to decode the received signal. Each different random sequence corresponds to a different communication channel. Motorola uses Code Division Multiple Access for digital cellular phones. *Acronym:* CDMA (C'D-M-A). *Also called* spread spectrum. *See also* multiplexing, transmitter.

**code page** \kɒdˈpɑːj\ *n.* In MS-DOS versions 3.3 and later, a table that relates the binary character codes used by a program to keys on the keyboard or to the appearance of characters on the display. Code pages are a means of providing support for character sets and keyboard layouts used in different countries. Devices such as the display and the keyboard can be configured to use a specific code page and to switch from one code page (such as United States) to another (such as Portugal) at the user's request.

**coder** \kɒˈdər\ *n.* *See* programmer.

**code segment** \kɒdˈsegˌmənt\ *n.* 1. A memory segment containing program instructions. 2. A named and segregated portion of a program's code typically performing a specific class of operations. Code segments in this sense are often loaded into memory as memory segments. The main program segment is kept in memory, and auxiliary segments are loaded only when they are required.

**code snippet** \kɒdˈsnɪpˌət\ *n.* 1. In a graphical user interface, programming instructions embedded in a menu option or button defined by the user. The snippet—consisting of one or more lines of source code—determines what the option or button does when chosen or clicked on. 2. A small piece of programming code that is part of a larger program. Usually the code snippet performs a specific function or task.

**coding form** \kɒˈdɛŋg fɔrm\ *n.* A sheet of paper ruled with horizontal and vertical lines to aid in writing source code for older languages that have position-dependent syntax (such as FORTRAN). Most programmers now use graph paper if they use paper at all.

**Installer**

programs are necessary for copy-protected applications, which cannot be copied by normal operating-system commands. They typically limit the number of copies that can be installed.

**Installer** \in-stā-lər\ *n.* A program, provided with the Apple Macintosh operating system, that allows the user to install system upgrades and make bootable (system) disks.

**Instance** \in-stāns\ *n.* An object, in object-oriented programming, in relation to the class to which it belongs. For example, an object *myList* that belongs to a class *List* is an instance of the class *List*. *See also* class, instance variable, instantiate, object (definition 2).

**Instance variable** \in-stāns vār-ē-ə-bl\ *n.* A variable associated with an instance of a class (an object). If a class defines a certain variable, each instance of the class has its own copy of that variable. *See also* class, instance, object (definition 2), object-oriented programming.

**Instantiate** \in-stān-shē-āt\ *vb.* To create an instance of a class. *See also* class, instance, object (definition 2).

**Instruction** \in-struk-shən\ *n.* An action statement in any computer language, most often in machine or assembly language. Most programs consist of two types of statements: declarations and instructions. *See also* declaration, statement.

**Instruction code** \in-struk-shən kōd\ *n.* *See* operation code.

**Instruction counter** \in-struk-shən coun-tər\ *n.* *See* instruction register.

**Instruction cycle** \in-struk-shən sī-kl\ *n.* The cycle in which a processor retrieves an instruction from memory, decodes it, and carries it out. The time required for an instruction cycle is the sum of the instruction (fetch) time and the execution (translate and execute) time and is measured by the number of clock ticks (pulses of a processor's internal timer) consumed.

**Instruction mix** \in-struk-shən miks\ *n.* The assortment of types of instructions contained in a program, such as assignment instructions, mathematical instructions (floating-point or integer), control instructions, and indexing instructions. Knowledge of instruction mixes is important to designers of CPUs because it tells them which instructions should be shortened to yield the great-

**integer**

est speed, and to designers of benchmarks because it enables them to make the benchmarks relevant to real tasks.

**Instruction pointer** \in-struk-shən poin-tər\ *n.* *See* program counter.

**Instruction register** \in-struk-shən rej-ə-stər\ *n.* A register in a central processing unit that holds the address of the next instruction to be executed.

**Instruction set** \in-struk-shən set\ *n.* The set of machine instructions that a processor recognizes and can execute. *See also* assembler, microcode.

**Instruction time** \in-struk-shən tīm\ *n.* The number of clock ticks (pulses of a computer's internal timer) required to retrieve an instruction from memory. Instruction time is the first part of an instruction cycle; the second part is the execution (translate and execute) time. *Also called* I-time.

**Instruction word** \in-struk-shən wərd\ *n.* 1. The length of a machine language instruction. 2. A machine language instruction containing an operation code identifying the type of instruction, possibly one or more operands specifying data to be affected or its address, and possibly bits used for indexing or other purposes. *See also* assembler, machine code.

**Insulator** \in-sə-lā-tər\ *n.* 1. Any material that is a very poor conductor of electricity, such as rubber, glass, or ceramic. *Also called* nonconductor. *Compare* conductor, semiconductor. 2. A device used to separate elements of electrical circuits and prevent current from taking unwanted paths, such as the stacks of ceramic disks that suspend high-voltage power lines from transmission towers.

**Integer** \in-tə-jər\ *n.* 1. A positive or negative "whole" number, such as 37, -50, or 764. 2. A data type representing whole numbers. Calculations involving only integers are much faster than calculations involving floating-point numbers, so integers are widely used in programming for counting and numbering purposes. Integers can be signed (positive or negative) or unsigned (positive). They can also be described as long or short, depending on the number of bytes needed to store them. Short integers cover a smaller range of numbers (for example, -32,768 through 32,767) than do long integers (for example, -2,147,483,648 through 2,147,483,647). *Also called* integral number. *See also* floating-point notation.